# US PATENT & TRADEMARK OFFICE PATENT APPLICATION FULL TEXT AND IMAGE DATABASE



(1 of 1)

**United States Patent Application** 

20040126392

Kind Code

Δ1

Matsunaga, Kenichi

**July 1, 2004** 

Cancer preventive agent and food

### **Abstract**

A cancer preventive agent and food are disclosed, which contain Tricholoma matsutake, in particular Fricholoma matsutake of the FERM BP-7304 strain, and any of mycelia, broths, or fruit bodies (including spores) thereof, as they are, dried products thereof, or extracts thereof (e.g., a hot water extract or an alkaline solution extract). Methods of preventing a cancer by the use of the cancer preventive agent and food are also disclosed.

Inventors:

Matsunaga, Kenichi; (Tokyo, JP)

Correspondence

WENDEROTH, LIND & PONACK, L.L.P.

Name and

2033 K STREET N. W.

Address:

SUITE 800

WASHINGTON

DC

20006-1021

US

Serial No.:

695762

Series Code:

10

Filed:

October 30, 2003

**U.S. Current Class:** 

424/195.15

**U.S. Class at Publication:** 

424/195.15

Intern'l Class:

A61K 035/84

	Fo	reign	Appl	ication i	Dat	a
--	----	-------	------	-----------	-----	---

**Date** Dec 27, 2002

Code JP **Application Number** 2002-381275

Claims

## **Case Creation Option**

Case "10695262us20060705" already exists. Please overwrite it or cancel the operation.

## The Contents of Case "10695262us20060705"

Qnum	Query	DB Name	Thesaurus	Operator	Plural
Q1	emitanin or ("RN-64641-39-0") or ("RN-64641-40-3") or ("RN- 64641-41-4")	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q2	(tricholoma matsutake)	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q3	(anti near5 (tumor or cancer or myeloma or sarcoma)) or (anti- near5 (tumor or cancer or myeloma or sarcoma))	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q4	Q1 near5 Q2	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q5	Q3 near5 Q2	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q6	colon near5 cancer	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q7	(treat near5 Q6) Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q8	(treat and Q6) Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q9	(treat near5 Q6) near5 Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q10	(treat and Q6) near5 Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q11	(treat and Q6) and Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q12	Q6 and Q1	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q13	Q6 and Q2	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q14	extract near5 Q2	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q15	treat same Q6	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q16	Q14 and Q15	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q17	Q14 same Q6	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q18	Q14 and Q6	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q19	424/295.15.ccls.	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q20	424/195.15.ccls.	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q21	Q17 and Q20	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES
Q22	Q18 and Q20	PGPB,USPT,USOC,EPAB,JPAB,DWPI	None	ADJ	YES

Q23 Q13 and Q20

PGPB,USPT,USOC,EPAB,JPAB,DWP

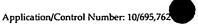
None

ADJ

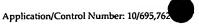
YES

Overwrite

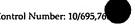
Cancel



	nitanine/CN
E1	1 EMITANIN S-B/CN
E2	1 EMITANIN S-C/CN
E3	O> EMITANINE/CN
E4	1 EMITEC 03EM201/CN
E5	1 EMITEFUR/CN
E6	1 EMITRICIBATINE/CN
E7	1 EMITTOL/CN .
E8	1 EMIVAN/CN
E9	1 EMIVIRINE/CN
E10	1 EMIX/CN
E11	1 EMIX, ALPHA, 1000/CN
E12	1 EMJEL 200/CN
C12	1 EMJEL 2007CIN
=> <i>e e</i> m	nitanine
E13	4 EMIT/BI
E14	<del>-</del> ···· · · -
	O> EMITANINE/BI
E16	1 EMITE/BI
E17	1 EMITEC/BI
E18	1 EMITEFUR/BI
E19	4 EMITOL/BI
E20	1 EMITRI/BI
E21	1 EMITRICIBATINE/BI
E22	1 EMITT/BI
E23	13 EMITTING/BI
E24	1 EMITTOL/BI
=>	
•	mitanine-5-a)/cn
E25	1 (EE)-CYCLOBILIRUBIN IX.ALPHA. B/CN
E26	1 (EICOSYLOXYTRI(ETHOXY) ETHYL)TRIMETHYLAMMONIUM CHLORIDE/CN
E27	O> (EMITANINE-5-A)/CN
E28	1 (ENDO(ENDO))-3,3'-(2,6-PYRIDINEDIYL)BIS(1,5,7-TRIMETHYL-2,4-
	DIOXO-3-AZABICYCLO(3.3.1)NONANE-7-CARBOXYLIC ACID/CN
E29	1 (ENDO(ENDO))-3,3'-(4,6-DIMETHYL-1,3-PHENYLENE)BIS(1,5,7-TRIM
	ETHYL-2,4-DIOXO-3-AZABICYCLO(3.3.1)NONANE-7-CARBOXYLIC ACID/
	CN
E30	1 (ENDO)-1-AZABICYCLO(2.2.1)HEPTAN-3-OL/CN
E31	1 (ENDO)-8-BICYCLO(2.2.1)HEPT-2-YL-2-((4-PIPERIDIN-1-YLPHENYL)
	AMINO)-8H-PYRIDO(2,3-D)PYRIMIDIN-7-ONE/CN
E32	1 (ENDO)-BICYCLO(2.2.1)HEPT-5-ENE-2-CARBONITRILE/CN
E33	1 (ENDO,ENDO)-BICYCLO(2.2.1)HEPT-5-ENE-2,3-DICARBOXYLIC ACID D
[33	IMETHYL ESTER/CN
E24	
E34	1 (ENDO,ENDO,ANTI)-3-METHYL-2,4-DIPHENYL-3-AZABICYCLO(3.3.1)NO
<b>C</b> 2-	NAN-9-AMINE/CN
E35	1 (ENDO,SYN)-3-O-ACETYL-8-ISOPROPYLTROPINIUM IODIDE/CN
E36	1 (ENDO-4-SERINE)-ANGIOTENSIN II/CN
	estin/cn
E37	1 KRESOXIM-METHYL-PROPICONAZOLE MIXT./CN



```
KRESOXIM-METHYL-PYRIDABEN MIXT./CN
E38
E39
        1 --> KRESTIN/CN
E40
           KRESULFIN/CN
        1
E41
        1
           KRET/CN
E42
        1
           KRET (CLEANER)/CN
E43
           KRETA VH-II/CN
E44
        1
           KRETAZINE/CN
E45
        1
           KRETOL/CN
E46
        1
           KRETOL MEGA VP/CN
E47
           KRETOX 03GB/CN
E48
           KRETTNICHITE/CN
=> s e39
=> d L1
L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 134192-05-5 REGISTRY *
* Use of this CAS Registry Number alone as a search term in other STN files may
result in incomplete search results. For additional information, enter HELP
 RN* at an online arrow prompt (=>).
ED Entered STN: 14 Jun 1991
CN Glycoproteins, specific or class, PS-K (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Polysaccharides, PS-K
OTHER NAMES:
CN Crestine
CN Krestin
CN PS-K
CN PSK
MF Unspecified
CI MAN, CTS
PCT Manual registration
SR CA
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, CIN,
   NAPRALERT, PHAR, PROMT, RTECS*, TOXCENTER
    (*File contains numerically searchable property data)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
=> e emitanine
E49
        4
           EMIT/BI
E50
        23 EMITANIN/BI
E51
        O --> EMITANINE/BI
E52
           EMITE/BI
E53
           EMITEC/BI
E54
           EMITEFUR/BI
E55
        4
           EMITOL/BI
E56
        1
           EMITRI/BI
E57
           EMITRICIBATINE/BI
E58
           EMITT/BI
        1
E59
        13
           EMITTING/BI
E60
        1
           EMITTOL/BI
=> e emitanin/cn
E61
        1
           EMISTIME C/CN
```



E62 1 EMISTYME/CN E63 1 --> EMITANIN/CN E64 EMITANIN 1A/CN E65 EMITANIN 1B/CN E66 EMITANIN 2A/CN E67 EMITANIN 2B/CN E68 EMITANIN 3A/CN E69 1 EMITANIN 3B/CN E70 EMITANIN A/CN E71 1 EMITANIN B/CN E72 1 EMITANIN BM-A/CN L3 1 EMITANIN/CN L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN RN 64641-39-0 REGISTRY ED Entered STN: 16 Nov 1984 CN Emitanin (9CI) (CA INDEX NAME) MF Unspecified CI MAN LC STN Files: CA, CAPLUS, TOXCENTER ⇒ FIL REGISTRY http://www.cas.org/infopolicy.html => SL4 L5 2 L4 L5 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN **ACCESSION NUMBER:** 1978:150599 CAPLUS **DOCUMENT NUMBER:** 88:150599 ENTRY DATE: Entered STN: 12 May 1984 TITLE: Anticancer substance, emitanin. INVENTOR(S): Suzuki, Wataru; Ikegawa, Tetsuro PATENT ASSIGNEE(S): Yamamoto, Hisashige, Japan SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp. Division of Japan. Kokai 77 79087. CODEN: JKXXAF DOCUMENT TYPE: Patent LANGUAGE: Japanese INT. PATENT CLASSIF.: C12D009-04 CLASSIFICATION: 16-2 (Fermentations) FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION N	NO. DATE		
JP 53006494	A2 (	19780120	JP 1977-28594	19770317		
PRIORITY APPLI	N. INFO.:		JP 1977-28594	A 19770317		
PATENT CLASSIFICATION CODES:						
PATENT NO.	CLASS PA	TENT FAN	ILY CLASSIFICA	TION CODES		
JP 53006494	IC C12D	009-04				
IPCI	C12D0009-	04; <i>C</i> 07 <i>G</i> 0	011-00; A61K0039	-00 [I <i>CA</i> ]		
IPCR	A61K0039-	00 [I,A]; A	\61K0039-00 [I,C*	]; <i>C</i> 07 <i>G</i> 0011-00		
[]	[,A]; C07G00	011-00 [I,C	*]			



#### ABSTRACT:

A culture broth of Tricholoma matsutake or Pleurotus spedoleucus is treated with an ion-exchange resin, ultrafiltered, fractionally pptd. by an org. solvent, acid, and a quaternary NH4+ salt, and subjected to chromatog. to yield an anticancer substance, emitanin (I) [64641-39-0]. Thus, mycelium of T. matsutake IFO 6915 was cultured at 24.degree. for 3 wk on a medium (pH 4.5) contq. Ebios 0.5 and glucose 2%. The culture supernatant was decolorized with active C and mixed with 3 vols. of alc. to ppt. crude I. The mycelium was also extd. with hot water and I was also pptd, by addn. of alc. The crude I was purified by column chromatog, on Duolite A-7 (H+), alc. pptn., and dialysis. I-A [64641-40-3] (31 mg) and I-B [64641-41-4] (10 mg) were sepd. by adsorption on DEAE-Sephadex; I-B was adsorbed.

SUPPL. TERM: neoplasm inhibitor emitanin; Tricholoma emitanin; Pleurotus emitanin

INDEX TERM: Neoplasm inhibitors (emitanin)

Pleurotus spedoleucus, Tricholoma matsutake (emitanin from) INDEX TERM:

INDEX TERM: Fermentation (emitanin, by Pleurotus or Tricholoma)

INDEX TERM: 64641-39-0 64641-40-3 64641-41-4 ROLE: BIOL (Biological study) (neoplasm inhibitor from fungi)

L5 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

**ACCESSION NUMBER:** 1977:599155 CAPLUS

87:199155 DOCUMENT NUMBER:

Entered STN: 12 May 1984 ENTRY DATE:

TITLE: Anticancer substance, emitanin

INVENTOR(S): Suzuki, Tsune; Ikegawa, Tetsuo PATENT ASSIGNEE(S): Yamamoto, Hisashige, Japan

**DOCUMENT TYPE:** Patent LANGUAGE:

Jpn. Kokai Tokkyo Koho, 8 pp. CODEN: JKXXAF Japanese

INT. PATENT CLASSIF.: C12D009-04

CLASSIFICATION: 16-2 (Fermentations)

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 52079087 A2 19770702 JP 1975-154037 19751225

PRIORITY APPLN. INFO.: JP 1975-154037 A 19751225

PATENT CLASSIFICATION CODES:

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

JP 52079087 IC C12D009-04

> IPCI C12D0009-04; C07G0011-00; A61K0039-00 [ICA] IPCR A61K0039-00 [I,A]; A61K0039-00 [I,C\*]; C07G0011-00

[I,A]; C07G0011-00 [I,C\*]

#### ABSTRACT:

SOURCE:

Emitanin (I) [64641-39-0] in a culture broth of Lentinus, Flammulina, Tricholoma, Pholiota, or Pleurotus was purified by ion-exchange chromatog., gel filtration, and pptn. by an org. solvent or a tertiary ammonium salt. Thus, Lentinus edodes IFO 4092 was cultured with shaking at 25.degree. for 14 days on 5 L of a liq. medium (pH 6.0). I was pptd. from the culture supernatant by addn. of 3 vols. alc. The hyphae (40 g) were extd. with hot water and I in the



ext. was also pptd. I was adsorbed on Duolite A-7, eluted with water, and pptd. with addn. of 3 vols. alc. to yield .apprx.1.5 g powder. I was dialyzed against water for 5 days, the soln. was treated with DEAE-Sephadex, and the filtrate was mixed with alc. to ppt. emitanin A [64641-40-3]. The DEAE-Sephadex was eluted with 1% NaOH and the eluate was neutralized and mixed with 3 vols. alc. to ppt. emitanin B [64641-41-4]. I was pos. in the HIO3-benzidine, naphthoresorcinol, and anthrone reactions, mainly consisted of sugar (glucose, galactose), and was sol. in water, hot MeOH, and hot EtOH, but was insol. in C6H6, hexane, and acetone.

SUPPL. TERM: cancer inhibitor emitanin Lentinus

INDEX TERM: Lentinus edodes (cancer inhibitors from, emitanins as)

INDEX TERM: Nomenclature, new natural products (emitanin)
INDEX TERM: Nomenclature, new natural products (emitanin A)
INDEX TERM: Nomenclature, new natural products (emitanin B)

INDEX TERM: Neoplasm inhibitors (emitanins)

INDEX TERM: 64641-39-0 64641-40-3 64641-41-4 ROLE: BIOL (Biological study) (a new cancer inhibitor)